

Amendments to the Claims:

Please amend claims 1-6, 8-9 and 17, and add new claims 18-19. This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A **population of** primary cultured adipocyte for gene therapy **adipocytes**, wherein the adipocyte is **adipocytes are** isolated and established from adipose tissue and stably maintains **maintain** a foreign DNA encoding a protein that is secreted outside of a cell, and wherein the DNA is operably linked to a promoter sequence, **and wherein the population is substantially free of non-adipocyte cells.**

2. (Currently Amended) The **population** adipocyte of claim 1, wherein the DNA is transferred to the cell by a retroviral vector or adeno-associated viral vector.

3. (Currently Amended) The **population** adipocyte of claim 1, which has the ability to significantly express the protein in vivo for at least 20 days.

4. (Currently Amended) The **population** adipocyte of claim 1, which is used to release the protein into the blood flow.

5. (Currently Amended) The **population** adipocyte of claim 1, wherein the protein is insulin or glucagon-like peptide 1 (GLP-1).

6. (Currently Amended) A method of producing an adipocyte for gene therapy a population of primary cultured adipocytes, wherein the method comprises the steps of:

- (1) isolating adipocytes and establishing a primary culture; and
- (2) transferring, and then stably maintaining in the genome a foreign DNA operably linked to a promoter sequence and encoding a protein that is secreted outside of the cell, wherein the population is substantially free of non-adipocyte cells.

7. (Original) The method of claim 6, wherein the foreign gene is transferred by a retroviral vector or adeno-associated viral vector.

8. (Currently Amended) ~~An adipocyte for gene therapy~~ A population of primary cultured adipocytes, which is produced by the method of claim 6.

9. (Currently Amended) An implant composition for gene therapy, wherein the composition comprises a population of primary cultured adipocyte, which is adipocytes, which are isolated and established from adipose tissue and stably ~~maintains~~ maintain in the genome a foreign DNA encoding a protein that is secreted outside of the cell, and a pharmaceutically acceptable carrier, wherein the DNA is operably linked to a promoter sequence, wherein the population is substantially free of non-adipocyte cells.

10. (Original) The implant composition of claim 9, which further comprises an extracellular matrix component.

11. (Original) The implant composition of claim 9, which further comprises an angiogenesis factor.

12.-16 (Cancelled)

17. (Currently Amended) ~~An adipocyte for gene therapy~~ A population of primary cultured adipocytes, which is produced by the method of claim 7.

18. (New) A population of primary cultured adipocytes, wherein the adipocytes are isolated and established from adipose tissue and stably maintain a foreign DNA encoding a protein that is secreted outside of a cell, wherein the DNA is operably linked to a promoter sequence, and wherein the population is obtained by ceiling culture and substantially free of non-adipocyte cells.

19. (New) The method of claim 6, wherein the primary culture is established in step (1) by ceiling culture.